

Exhibit 4.1

Infringement Claim Chart for U.S. Pat. No. US8831205B1 Vs Facebook (“Defendant”)

Claim7	Evidence
<p>7) A method for defining mutually exclusive communication channels between users, comprising:</p>	<p>The Facebook platform with system-generated friend recommendations performs a method for defining mutually exclusive communication channels between users.</p> <p>For example, the platform automatically generates friend recommendations based on user profiles. A friend recommendation is a suggestion for a connection with another user. Each follow recommendation is unique and therefore mutually exclusive from all others. Each follow recommendation is delivered to the user for whom the recommendation is made, thereby defining a mutually exclusive communication channel between that user and the other user.</p> <div style="border: 1px solid green; padding: 5px;"> <p>Facebook is a social media network that connects people through an online platform. By sharing content like text status posts, images, videos, and external links like blog posts, Facebook users can contribute ideas and join conversations with other people who share the same or different interests.</p> </div> <p>Source: https://blog.hubspot.com/marketing/how-to-use-facebook</p> <div style="border: 1px solid green; padding: 5px;"> <p>Groups</p> <p>Facebook users with similar interests might find it helpful to create a group on the platform. A group is a community of users who interact with each other based on various topics set by the group’s admins and other users. Only individual users can be added to groups — pages cannot be part of Facebook groups. Admins have a wide range of permissions they can enable or disable to have the group function in a particular way.</p> </div> <p>Source: https://blog.hubspot.com/marketing/how-to-use-facebook</p>


There are three ways you can add friends on Facebook. You can either search for them, find them in the Find Friends tab, or import a list of contacts from your email, iCloud, or phone.

To find friends on Facebook, go to your profile, select the **Friends tab**, and tap the Find Friends button. You'll see a list of friend requests from other people and a list of people you may know that you can add as a friend on Facebook.

If you upload a list of contacts onto Facebook, you can add your friends as you sort through each of your contacts.

Source: <https://blog.hubspot.com/marketing/how-to-use-facebook>

How does Facebook use my information to show suggestions in People you may know?

 Copy link

'People you may know' can help you and your friends connect with other people on Facebook. 'People you may know' suggestions may show you people you might want to add as a friend who you haven't seen on Facebook yet or who may be new to Facebook.

'People you may know' suggestions can be friends of friends, people in your network or people you may have something in common with.

Source: <https://www.facebook.com/help/1059270337766380>

What information does Facebook use to show suggestions in People you may know?

People you may know suggests people you might be likely to add as a friend on Facebook. Friend suggestions come from things such as:

- Having friends in common.
- Your profile information and networks (e.g. your current town/city, school or work).
- Your Facebook activity (e.g. joining groups or being tagged in the same photo or post).
- Contacts that you or someone you may know uploaded to Facebook or Messenger.

Source: <https://www.facebook.com/help/1059270337766380>

Find more friends

You can use [People you may know](#) to find friends on Facebook. People you may know suggests friends based on shared friendships, being in the same Facebook group or your common networks. To find more friends to add, you can [upload your contacts](#) from your mobile phone or email accounts.

If you're having trouble with adding a friend, learn more about [why you can't add someone as a friend](#).


Source: https://www.facebook.com/help/246750422356731/?helpref=hc_tnav

a) maintaining a plurality of user profiles for a plurality of users, each user profile comprising a plurality of user characteristics;

The Facebook platform with system-generated friend recommendations maintains a plurality of user profiles for a plurality of users, each user profile comprising a plurality of user characteristics.

For example, the platform maintains a profile for each user. The profile includes user characteristics entered by the user such as interests, photos and personal information. The profile can also include system-derived characteristics of the user based on the user's past use of the platform.

How usernames and user IDs are used on Facebook Profiles

 Copy link

Usernames and user IDs are part of your public profile, which can help your friends find you on Facebook. A username is the web address for your profile or Page (e.g. Facebook.com/yourname).

Source: <https://www.facebook.com/help/211813265517027>

Profile

The Facebook profile is where your information will live. Your name, photo, hometown, workplace, education history, and so on can all be added to your profile. You can make your profile as public or private as you want by disabling the information you don't want publicly visible.

Source: <https://blog.hubspot.com/marketing/how-to-use-facebook>

Your [profile](#) tells your story. You can choose [what to share](#), such as interests, photos and personal information such as your home town, and [who to share it with](#). You can see your own posts and posts that you've been tagged in.

Your [profile and tagging settings](#) will help you manage tags and review who can add and see things on your profile. Learn how to [adjust settings for your Facebook account](#).

You can [turn on professional mode for your profile](#). This allows you to build your public presence and maintain your personal friends and family experience from one place on Facebook. Learn more about [professional mode](#).

Source: <https://www.facebook.com/help/396528481579093>



Source: <https://www.neowin.net/news/facebook-moving-all-users-to-the-new-profile-layout/>

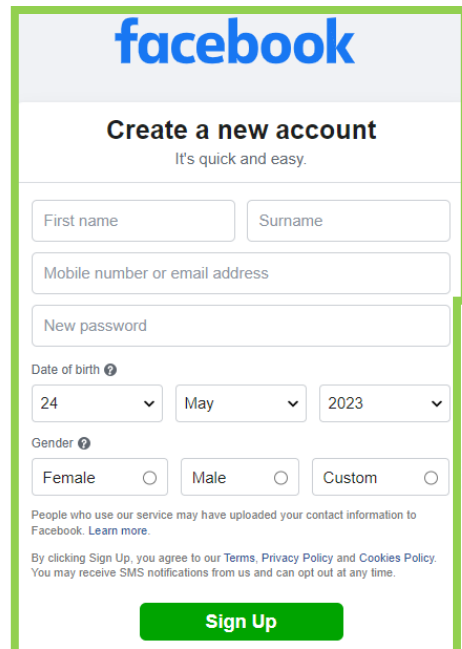
b) receiving a plurality of

The Facebook platform with system-generated friend recommendations receives a plurality of requests for mutually exclusive communication channels among respective

requests for mutually exclusive communication channels among respective users from the plurality of users;

users from the plurality of users.

For example, when a user submits a completed profile, that submission represents a request from the user for the platform to automatically generate, for the user, at least one friend recommendation. The friend recommendation represents a mutually exclusive communication channel between the users that are the subject of the friend recommendation. The platform has multiple users and therefore receives a plurality of such requests.



The image shows the Facebook 'Create a new account' form. At the top is the Facebook logo. Below it is the heading 'Create a new account' with the subtext 'It's quick and easy.' The form includes input fields for 'First name', 'Surname', 'Mobile number or email address', and 'New password'. There is a 'Date of birth' section with dropdowns for day (24), month (May), and year (2023). Below that is a 'Gender' section with radio buttons for 'Female', 'Male', and 'Custom'. At the bottom of the form is a green 'Sign Up' button. Small text at the bottom of the form states: 'People who use our service may have uploaded your contact information to Facebook. Learn more.' and 'By clicking Sign Up, you agree to our Terms, Privacy Policy and Cookies Policy. You may receive SMS notifications from us and can opt out at any time.'

Find more friends




You can use People you may know to find friends on Facebook. People you may know suggests friends based on shared friendships, being in the same Facebook group or your common networks. To find more friends to add, you can upload your contacts from your mobile phone or email accounts.

If you're having trouble with adding a friend, learn more about why you can't add someone as a friend.

Source: https://www.facebook.com/campaign/landing.php?campaign_id

Source: https://www.facebook.com/help/246750422356731/?helpref=hc_fnav

Find and add a friend on a computer:

1. Click the search bar in the top left of any Facebook Page.
2. Type your friend's name into the search bar and click 
3. To send someone a friend request, click  next to their profile picture. Some people might not have  next to their profile picture, depending on their [privacy settings](#).

Note: You can have up to 1,000 sent requests waiting for a response. If you send more, the oldest request will be deleted.

Source: <https://www.facebook.com/help/www/146466588759199>

Friending on Facebook helps you stay connected with people you care about. Adding a friend means you may see each other's activity in Feed, Stories and Photos.

When you want to add a friend on Facebook, bear in mind that:

- You should send friend requests to people you know and trust. [Add a friend](#) by searching for them or directly from [People you may know](#).
- You can [control who can friend and follow you](#) by editing your privacy settings.
- If you don't want someone to see you on Facebook, learn how to [unfriend or block them](#).
- You can have up to [5,000 friends](#) at a time.

Source: https://www.facebook.com/help/1540345696275090/?helpref=hc_tnav

	<div> <p>What is People you may know on Facebook?</p> <p>People you may know is a list of people who you might want to be friends with because you have things in common, such as a mutual friend, school or workplace.</p> <p>You can send a friend request to anyone on your People you may know list by selecting Add Friend. If you think a suggestion is unhelpful, you can remove it and see fewer suggestions like it.</p> </div> <p>Source: https://www.facebook.com/help/336320879782850/?helpref=hc_tnav</p> <div> <p>You or the person you want to add have reached the friend limit.</p> <p>You can have up to 5,000 friends on Facebook. To connect with someone new, you can:</p> <ul style="list-style-type: none"> • turn on professional mode to connect with more than 5,000 friends on Facebook. • unfriend someone else and then send a new friend request. • follow them instead if they have following enabled. You'll still be able to see their public posts. <p>Note: You won't be able accept a friend request from someone who has 5,000 friends.</p> </div> <p>Source: https://www.facebook.com/help/211926158839933?helpref=uf_permalink</p>
c) performing a combinatorial optimization with an automated	<p>The Facebook platform with system-generated friend recommendations performs a combinatorial optimization with an automated processor, to predict a net benefit of the mutually exclusive communication channels between respective users of the plurality of users, for optimization criteria representing a net value of each respective mutually exclusive communication channel for a plurality of mutually exclusive communication</p>

<p>processor, to predict a net benefit of the mutually exclusive communication channels between respective users of the plurality of users, with respect to an optimization criteria representing a net value of each respective mutually exclusive communication channel for a plurality of mutually exclusive communication channels, based on at least the plurality of user profiles; and</p>	<p>channels, based on at least the plurality of user profiles.</p> <p>For example, as an algorithm-assisted social media platform, Facebook strives to provide friend recommendations that will be seen as favorable to as many users of the platform as possible. This means that, as optimization criteria, the platform seeks to maximize the overall value, or net benefit, of friend recommendations that are presented to the users of the platform. The value of each friend recommendation is based on the characteristics in the user profiles of the users that are the subject of that friend recommendation. A processor in the platform determines a net value for each potential friend recommendation. To meet the optimization criteria, the platform selects, from the potential friend recommendations, a set of friend recommendations to present to the users that have a maximum net benefit to the users of the platform.</p> <div style="border: 1px solid green; padding: 10px;"> <p><u>Facebook is a social media network that connects people through an online platform. By sharing content like text status posts, images, videos, and external links like blog posts, Facebook users can contribute ideas and join conversations with other people who share the same or different interests.</u></p> </div> <p>Source: https://blog.hubspot.com/marketing/how-to-use-facebook</p>
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Source: <https://www.facebook.com/help/396528481579093>

What is People you may know on Facebook? ▲

People you may know is a list of people who you might want to be friends with because you have things in common, such as a [mutual friend, school or workplace](#).

You can send a friend request to anyone on your People you may know list by selecting Add Friend. If you think a suggestion is unhelpful, you can remove it and see fewer suggestions like it.

Source: https://www.facebook.com/help/336320879782850/?helpref=hc_tnav

You or the person you want to add have reached the friend limit.




You can have up to 5,000 friends on Facebook. To connect with someone new, you can:

- [turn on professional mode](#) to connect with more than 5,000 friends on Facebook.
- [unfriend someone else](#) and then send a new friend request.
- [follow them instead](#) if they have following enabled. You'll still be able to see their public posts.

Note: You won't be able accept a friend request from someone who has 5,000 friends.

Source: https://www.facebook.com/help/211926158839933?helpref=uf_permalink

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Friending on Facebook helps you stay connected with people you care about. Adding a friend means you may see each other's activity in Feed, Stories and Photos.

When you want to add a friend on Facebook, bear in mind that:

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Source: https://www.facebook.com/help/1540345696275090/?helpref=hc_tnav

d) storing in a memory a description of an optimum set of mutually exclusive communication channels.

The Facebook platform with system-generated recommendations stores in memory a description of an optimum set of mutually exclusive communication channels.

For example, for a user to access the system-generated friend recommendations that the platform has selected to present to the user when the user logs into the platform, the platform stores these friend recommendations in a memory associated with the platform. This is done for all users of the platform, which means that the entire set of system-generated friend recommendations that the platform has selected to meet the optimization criteria are stored.

Log in using your Facebook login information

1. Go to [facebook.com](https://www.facebook.com).
2. Click **Email or phone number** and enter one of the following:
 - **Email:** You can log in with any email address that's listed on your Facebook account.
 - **Phone number:** If you have a mobile number confirmed on your account, you can enter it here (don't add any zeros before the country code, or any symbols).
 - **Username:** You can also log in with your [username](#), if you set one up.
3. Enter your password and click **log in**.

Source: <https://www.facebook.com/help/185285184853471/>

The Facebook profile is where your information will live. Your name, photo, hometown, workplace, education history, and so on can all be added to your profile. You can make your profile as public or private as you want by disabling the information you don't want publicly visible.

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Source: https://www.facebook.com/help/246750422356731/?helpref=hc_inav

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